

Remarks

Claims 1-14 are now pending in this application. Claims 1 and 14 are rejected. Claims 2-13 are objected to. Claims 1-14 have been amended. No new matter has been added.

The objection to Claims 2-13 is respectfully traversed. Applicants respectfully submit that a reason for objecting to Claims 2-13 has not been provided. Accordingly, Applicants respectfully request that a reason be provided.

The requirement for a new oath or declaration in compliance with 37 C.F.R. 1.67(a) is respectfully traversed. Applicants respectfully traverse the statement in the Office Action that the oath or declaration is defective because the specification to which the oath or declaration is directed has not been adequately identified. Applicants respectfully submit that the above-referenced application has been identified in the declaration by a name of an inventor of the application and title of the invention which was on the application as filed. The following combination of information supplied in a declaration filed on an application filing date with a specification is acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 C.F.R. 1.63: name of inventor, and title of invention which was on the specification as filed (MPEP 602). Applicants respectfully submit that the declaration filed on February 11, 2004 with the above-referenced application includes a name, Yuji, Inoue, of the inventor, and title, Circular Pole Piece and MRI System, which was on the application as filed. Accordingly, Applicants respectfully submit that the declaration filed on February 11, 2004 satisfies the requirements of 37 C.F.R. 1.63(b)(1) and request that the requirement for a new oath or declaration be withdrawn.

The rejection of Claims 1 and 14 under 35 U.S.C. § 102(b) as being anticipated by Tomita et al. (U.S. Patent No. 4,042,898) is respectfully traversed.

Tomita et al. describe a pole piece for use in a magnetic device (abstract). A difference in a crystal grain-size of respective portions of a surface of the pole piece depends on a gradient of a sloped surface (5-1) of a pole piece stock, a tip

configuration of a lower punch die (4), a shape of the pole piece stock and the like (column 4, lines 28-32). A test reveals that the difference may be achieved with ease to obtain the ratio of grain size of about 1:4 (1:1.3 in terms of permeability) (column 4, lines 33-35). A difference in permeability or coercive force depending on a center portion and the outer circumferential portion of the pole piece dictates the variation in crystal grain size, internal stress, distribution in impurities, alignment of direction of crystals (an aggregated structure) in terms of location (column 3, lines 52-57).

Claim 1 recites a circular pole piece included in a magnetic circuit for magnetic resonance imaging (MRI), the circular pole piece comprising “a center portion including the center of said circular pole piece and a first set having a plurality of directional magnetic sheet tiles layered based on directions of axes of easy magnetization; and a marginal portion surrounding the center portion, wherein a permeability which said center portion made of a first soft magnetic material exhibits with an external magnetic field applied thereto is higher than a permeability of said marginal portion made of a second soft magnetic material.”

Tomita et al. do not describe or suggest a circular pole piece as recited in Claim 1. Specifically, Tomita et al. do not describe or suggest a center portion including the center of the circular pole piece and a first set having a plurality of directional magnetic sheet tiles layered based on directions of axes of easy magnetization. Rather, Tomita et al. describe a pole piece having a center portion and an outer circumferential portion. The center portion and the outer circumferential portions include variations in crystal grain size, internal stress, distribution in impurities, and alignment of direction of crystals to achieve a difference in permeability. Accordingly, Tomita et al. do not describe or suggest a center portion including a first set having a plurality of directional magnetic sheet tiles layered based on directions of axes of easy magnetization. For the reasons set forth above, Claim 1 is submitted to be patentable over Tomita et al.

Claim 14 recites an MRI system comprising a circular pole piece comprising “a center portion made of a first soft magnetic material; and a marginal portion made of a second soft magnetic material and including a set of at least one non-directional magnetic sheet tile devoid of an axis of easy magnetization, said marginal portion circumscribing said center portion, wherein a permeability which said center portion

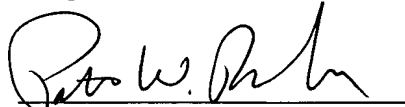
exhibits when an external magnetic field is applied thereto is higher than a permeability of said marginal portion when the external magnetic field is applied.”

Tomita et al. do not describe or suggest an MRI system including a circular pole piece as recited in Claim 14. Specifically, Tomita et al. do not describe or suggest a marginal portion made of a second soft magnetic material and including a set of at least one non-directional magnetic sheet tile devoid of an axis of easy magnetization. Rather, Tomita et al. describe a pole piece having a center portion and an outer circumferential portion. The center portion and the outer circumferential portions include variations in crystal grain size, internal stress, distribution in impurities, and alignment of direction of crystals to achieve a difference in permeability. Accordingly, Tomita et al. do not describe or suggest a marginal portion made of a second soft magnetic material and including a set of at least one non-directional magnetic sheet tile devoid of an axis of easy magnetization. For the reasons set forth above, Claim 14 is submitted to be patentable over Tomita et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1 and 14 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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